

**LEARNING AIDS AND PSYCHOMOTOR SKILLS
DEVELOPMENT OF NURSERY SCHOOL PUPILS IN EKET
SENATORIAL DISTRICT OF AKWA IBOM STATE**

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Abstract

This study centred on learning aids and psychomotor skills development of nursery school pupils in the study area. Three objectives were drawn and three null hypotheses were formulated to guide the study. A correlational research design was adopted for the study. The population consisted of all the nursery school teachers and pupils in the study area numbering 285 teachers and 20,360 pupils. Simple random sampling technique was used to draw the sample for the study. Two instruments were used, learning aids questionnaire (LAQ) and psychomotor skills development of nursery school pupils (PSDA). Simple regression was used to test the hypotheses at .05 level of significance. The finding of the study indicated that positive relationship exist between learning aids and psychomotor skills development of nursery school pupils. Based on the findings, it was recommended that learning aids should be provided to enhance optimal development of psychomotor skills.

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Early childhood is a critical period of rapid physical, cognitive and psychosocial development of a child. Therefore, education at this level demands special attention and competence. Early childhood education as defined by the National Policy on Education (FRN, 2004) as the education given in an educational institution to children prior to their entering the primary school. This level of education is referred to, among Nigerian parents and educators as nursery education which connotes early childhood education. Many educators and researchers have claimed that the quality of educational experience given to a child at this stage will last for a substantial part of his life. Ekanem (2004) pointed out that, the development of psychomotor, affective and cognitive domains in schools are basic to a child's attainment of a wholesome living.

Several studies in the area of psychomotor development support that motor development is intricately related to the child cognitive and affective behaviours; and that the physical and intellectual qualities determine the personality of the child. Ekanem (2004) observed that children are naturally active and they hate any dull moments. It is therefore important that nursery school teachers and managers should take optimal advantage of children's innate urge for body movement and play to inculcate the necessary skills in them. Every learning moment within and outside of the classroom must be through play and activities because no amount of high level instruction can adequately replace motor activities.

Wang (2004) had it that theorists have proposed that motor skills could be improved through practice, learning and environmental interaction, all of which promotes the integration of the identified sequential maturational stages of motor development. This implies that motor skills could be enhanced with the use of adequate and appropriate learning aids. The nursery school environment should be structured and equipped with necessary learning resources that encourage and give children ample opportunities to explore their environment through body movement and play. Such resources should include equipment such as swing, merry-go-round and slide. Materials like paint brush, water colour, building blocks of various colours, tops for spinning, wind-up toys, lacing materials (string to be passed through hole and others) are also good for promoting fine and visual motor skills along with cognitive and affective skills. Psychomotor skills development refers to the ability of the nursery school pupils to control their body nerves and muscles of the fingers, arms and shoulders. It is primarily a movement task that lead individual to learn about their environments. Major abilities are fundamental movement pattern which form the basis for the development of advanced skills. A child deprived of adequate and appropriate learning aid is being deprived of opportunity for motor development.

A close look at some of the public schools in Eket Senatorial District reveals that most of these institutions do not operate according to the federal and state government guidelines concerning provision of adequate and appropriate resources. These have impacted negatively on the general development of the child. The researchers are therefore interested in finding out the relationship between learning aids and psychomotor skills development of the pupils in public primary school in Eket senatorial district of Akwalbom State.

Statement of the Problem

Previous works had been carried out in the field of psychomotor development, such as relationship between play facilities and socio-motor development, effect of creative movement programme on gross motor skills (Ekanem, 2008; Wang, 2004). However, no previous work, to the best knowledge of these researchers had been carried out to ascertain the relationship between learning aids and psychomotor skills development of nursery school pupils in Eket Senatorial District. Knowledge of this relationship would provide insight on ways to support nursery pupils in their development in this area, while lack of this knowledge is certainly a gap in our understanding of psychomotor development and in providing a holistic education for the child. This study was therefore conducted to fill this gap by examining the relationship between learning aid and psychomotor development of nursery school pupils in Eket senatorial district.

Purpose of the Study

The purpose of this study is to investigate the relationship between learning aids and psychomotor skill development of nursery school pupils in Eket senatorial district of Akwalbom State. The specific purposes are:

- (1) To ascertain the relationship between the use of crayon and psychomotor skill development in nursery school pupils.
- (2) To examine the relationship between the use of soft balls and psychomotor skills development in nursery school pupils.
- (3) To determine the relationship between fixing of puzzles and psychomotor skills development among nursery school pupils in Eket senatorial district.

Research Questions

To achieve the desired objectives, the following research questions were formulated to guide the study:

- (1) Does the use of crayon relate with pupils development of psychomotor skills?

- (2) How does the use of soft balls relate with pupils development of psychomotor skills in nursery school?
- (3) Is there any relationship between fixing of puzzles and psychomotor skills development by the pupils?

Hypotheses

The following null hypotheses which were tested at .05 level of significance, were formulated to guide the study:

- (1) There is no significant relationship between the use of crayon and psychomotor skills development of nursery school pupils.
- (2) There is no significant relationship between the use of soft balls and psychomotor skills development in nursery school pupils.
- (3) There is no significant relationship between fixing of puzzles and psychomotor skill development of nursery school pupils.

Research Design

The study adopts a correlational research design because it seeks to investigate the relationship between learning aids and psychomotor skills development of nursery school pupils.

Population of the Study

Population of the study consisted of all the nursery school pupils and teachers in the study area numbering 20,360 pupils and 285 teachers in 2018/2019 academic session when the study was conducted (State Universal Basic Education Board).

The use of the teachers as respondents was due to the fact that the researcher considered them competent to respond and provide useful information concerning the variable under consideration on behalf of their pupils since they are directly involved in their learning process. The pupils were also considered eligible because the study is directly related with their development. They were considered competent to respond to the items on the instrument because the items are concerned with performing some selected physical tasks which do not require verbal expression.

Sample and Sampling Technique

The sample of the study consisted of 80 teachers and 400 pupils drawn from 25 nursery schools. The schools were selected using simple random sampling techniques. This is the process that gives every member of the population an equal chance of being selected (Udo and Joseph, 2005).

In each school proportional random sampling method was employed in selecting the teachers and the pupils. Consequently, 80 teachers and 400 pupils were involved in the study. This technique was used by employing ballot method; the pupils in each school visited were assigned numerical identification and the corresponding numbers were written on pieces of paper, folded and put in a closed container. The container was shaken thoroughly and a piece of paper bearing a number was picked at a time and set aside. The container was thoroughly shaken before another piece was picked, the procedure continued until the desired sample was reached.

Instrumentation

The researchers developed two instruments known as Learning Aids Questionnaire (LAQ) and Psychomotor Skills Development Assessment Questionnaire (PSDAQ) to gather data for this study. The (LAQ) was made of (10) items responded to by the nursery teachers, while the (PSDAQ) contained (10) items of psychomotor tasks that the selected pupils were asked to perform. The teachers were asked to indicate their degree of agreement or disagreement to each statement by ticking (√) along the columns provided using 4point likert scale as follow: Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD).

Validity of Research Instrument

In order to determine the validity and clarity of the item, the (LAQ) and (PSDAQ) were subjected to face and content validity by three expert, two from Early childhood and one from measurement and evaluation regarding language and structure. All corrections and suggestion were taken into consideration in the development of the final draft.

Method of Data Analysis

The data was subjected to Simple Regression Analysis, this was suitable because the number of teachers and pupils differed. To accomplish this all the pupils' scores of their performance in the psychomotor tasks assessment were marched with their teachers' response and thereafter subjected to computer analysis to determine the regression coefficient as well as F-ratio.

Data Analysis and Result

Research Question 1

Does the use of crayon relate with pupils development of psychomotor skills in nursery school?

Mean (x) standard deviation (SD) and regression coefficient (R) were used to answer the research question. The summary of data for the question are shown in table 1.

Table 1: Relationship between use of crayon and psychomotor skills

Variable	N	X	SD	R
Use of crayon	80	5.40	2.19	0.52
Psychomotor	400	23.74	4.15	96

N = 480

The value of R of .05296 indicated a positive (average) relationship between use of crayon and psychomotor skills development of pupil in nursery school.

Research Question 2

How does the use of soft ball relate with psychomotor skills of nursery school pupils?

Mean, standard deviation and regression coefficient were used to answer the research question and summary of data shown below in table 2.

Table 2: Relationship between use of soft ball and psychomotor skills development

Variable	N	X	SD	R
Use of soft balls	80	9.50	3.15	0.5431
Psychomotor skills	400	23.74	4.15	

N = 480

The value of R of 0.5431 indicated that there existed a positive average relationship between soft balls and psychomotor skills of pupils in nursery school.

Research Question 3

Is there any relationship between fixing of puzzles and psychomotor skill development of nursery school pupils?

Mean, standard deviation and regression coefficient were used to answer the research question and summary of data shown in table 3.

Table 3: Relationship between fixing puzzles and psychomotor skills development

Variable	N	X	SD	R
Fixing puzzles	80	18.6	5.01	0.6728
Psychomotor skills	400	23.74	4.15	

N = 480

The value of R of 0.6728 indicated that there existed a positive (above average) relationship between fixing of puzzles and psychomotor skills development.

Hypotheses Testing

There is no significant relationship between use of crayon and psychomotor skill development of pupils in nursery school.

Simple regression analysis was used to test the hypothesis and summary of the data presented in Table 4.

Table 4 regressing psychomotor skills on use of crayon.

Regression coefficient (R) = 0.5296
 $R^2 = 0.2805$
Adjusted $R^2 = 0.2716$
Standard Error = 2.0957

Analysis of Variance

Source of variance	ss	df	ms	fcal	fcri
Regression	1348.26	1	1348.26	23.98*	3.84
Resident	26873.16	478	56.22		
Total	28221.42	479			

N = 480

*Significant P<05

Since the obtained f of 23.98 was greater than the critical f of 3.84 at df 1,478 and at .05 level of significant, the null hypothesis was rejected. Therefore use of crayon significantly relate to psychomotor skills development of pupils in nursery schools. The value of R^2 of 0.2716 indicated that play that use crayon accounted for 27.16% of variation in psychomotor development of pupils in nursery schools.

Hypothesis Two

There is no significant relationship between the use of soft balls and psychomotor skills development in pupils in nursery schools.

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Simple regression analysis was used to test the hypothesis and summary of the data presented in table 5.

Table 5: Regression psychomotor skills on use of soft balls

Regression coefficient (R) = 0.5431
 $R^2 = 0.2949$
Adjusted $R^2 = 0.2817$
Standard Error = 3.0115

Analysis of Variance

Source of variance	ss	df	ms	fcal	fcrit
Regression	1431.87	1	1431.87		
Residual	27805.26	478	58.17	24.17*	3.84
Total	28221.42	479			

N = 480 *Significant P<05

Since the computed F of 24.61 was greater than the critical F of 3.84 at df of 1,478 and at .05 level of significant, the null hypothesis was rejected. Therefore use of soft balls significantly relate to psychomotor skill development of children in nursery schools. The value of R^2 of 0.2817 revealed that use of soft balls accounted for 28.17 of variation in psychomotor skills development of pupils in nursery schools.

Hypothesis 3

There is no significant relationship between fixing of puzzles and psychomotor skills development of pupils in nursery schools.

Simple regression analysis was used to test the hypothesis and summary data shown in table 6.

Table 6: regressing psychomotor skills on fixing puzzles

Regression coefficient (R) = 0.6953
 $R^2 = 0.4834$
Adjusted $R^2 = 0.4716$
Standard Error = 4.3327

Analysis of Variance

Source of variance	ss	df	ms	fcal	fcrit
Regression	1463.74	1	1463.74	28.57*	3.84

Resident	28539.17	478	51.23
Total	26002.91	479	

N = 480

*Significant P<05

The null hypothesis was rejected since the computed f of 28.57 was greater than critical f of 3.84 at df of 1,478 and at .05 level of significant. Therefore fixing of puzzles has significant relationship with psychomotor skills development of pupils in nursery schools. The value of R² of 0.4716 revealed that fixing of puzzles accounted for 47.16% of variation in psychomotor skills development of pupils in nursery schools.

Discussion of Findings

The findings of this study are discussed here in relation to the research hypotheses, which guided the study. There is no significant relationship between use of crayon and psychomotor skills development in nursery school pupils. To begin with the result of testing hypothesis one indicated that the use of crayon relate significantly to psychomotor skills development of nursery school pupils. There are quite a number of reasons that can be offered to explain the present study. When children interact with play materials like crayon they are encouraged to talk, ask questions, give answers to questions, at time they sing and dance as a result of the excitement in them thereby enhancing their communication ability alongside. This is in consonant with the finding of Udoh (2004) that the child need growth ingredient like suitable stimulations, space, companionship, raw materials for the expression of ideas like suitable play materials, patience and tolerance.

Again, when children are exposed to different kinds and shape of crayons in the process, it gives room for even the introvert to speak out – indicating interest in colour of interest to children;it makes them more relaxed and willing to do their best to reach maximum satisfaction. As children learn to express themselves with learning aids at a tender age, the grow up to speak frequently, for instance when children are given crayon to colour objects or when they are building with blocks, they need the support and encouragement from the teacher; with this they become more coordinated.

The result of testing hypothesis two also shows that there is a significant relationship between the use of soft balls and psychomotor skills development of nursery school pupils. The finding agrees with the findings of Ekanem (2008) and that of Ara, Gursoy, Yasar and Gok (2011) that, learning aids otherwise referred to as learning materials like small soft balls of various types play a significant role in fostering children's psychomotor skills development by throwing, kicking, catching and the likes. The finding of this study is also in agreement with the opinion of Obinaju (2016) and Brotherson (2008) which stated that learning materials such as small soft balls are

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critical in helping young children's development of hands, wrist muscles and eye-hand coordination which is necessary for later academic work, as well as in the development of gross muscles. The reason for this finding is due to the fact that children learn effectively through practice and regular interactions with learning aids, when they are provided with variety of materials such as puzzles, building blocks, logos, crayon, scissors, and others that allows them make use of their finger and wrist muscles, several skills such as cognitive, social and psychomotor are developed.

There is no significant relationship between fixing puzzles and psychomotor skills development. This finding is in agreement with the finding of Hanson (2007), Wang (2004) who found out that children who participated in various activities that promote fine and gross muscles coordination demonstrated a higher developmental quotients in motor skills than children who did not participate. This finding is also consistent with the opinion of Jeansonne (2004); Ekanem and Chinedu (2009) that activities such as drawing with pencil and colouring with crayon, fixing puzzles, building with blocks among other promote the development of fine motor muscles. While activities such as throwing, running, climbing, among others promote the development of gross motor muscles.

Conclusion

Based on the findings of the study it was concluded that, there is a significant relationship between learning aids and psychomotor skills development of nursery school pupils. The study revealed that each of the sub-variables, such as crayon, soft balls and fixing puzzles significantly relate to the psychomotor skills development of nursery school pupils in Eket senatorial district. Considering the importance of psychomotor skills development of nursery school pupils, all effort should be made to ensure that instructional practices that support psychomotor skills development are ensured in nursery schools.

Recommendations

- (1) Parents as individual as well as Parents Teachers' Association should compliment government effort by providing basic learning materials that aid pupils in the development of psychomotor skills such as crayon, puzzles, assorted toys, paper scissors, clay or plastercene, building blocks and others of such.
- (2) Local Education Authorities and state ministry should organize regular seminar for nursery school teachers to give enlightenment on pre-reading and pre-writing activities that would help their pupils in the development of psychomotor skills; and on how to make some local materials to this effect.

- (3) Teachers and head teachers of pre-primary school should embark on the production of cheap and locally made play materials like counting sticks, plastic bottles, straws, empty cans, clay for moulding, bottle tops and other that could help pupils in the development of psychomotor skills.

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